

Search Note

COPY

RESS-LOESCHKE et al., Serial No. 09/806,876

**COMPLETE LISTING OF CLAIMS IN THE APPLICATION**

1. (currently amended) An isolated nucleic acid sequence which codes for a polypeptide having nitrilase activity, selected from the group consisting of:
  - a) a nucleic acid sequence having the sequence depicted in SEQ ID NO: 1,
  - b) a nucleic acid sequences which are derived from the nucleic acid sequence depicted in SEQ ID NO: 1 as a result of the degeneracy of the genetic code,
  - c) derivatives of the nucleic acid sequence depicted in SEQ ID NO: 1, which code for polypeptides having the amino acid sequences depicted in SEQ ID NO: 2 and have at least 95 97% homology at the amino acid level, with negligible reduction in the enzymatic action of the polypeptides.
2. (currently amended) An isolated amino acid sequence encoded by a nucleic acid sequence as claimed in claim 1.
3. (currently amended) An isolated amino acid sequence as claimed in claim 2, encoded by the sequence depicted in SEQ ID NO: 1.
4. (original) A nucleic acid construct comprising a nucleic acid sequence as claimed in claim 1, the nucleic acid sequence being linked to one or more regulatory signals.
5. (previously presented) A vector comprising an nucleic acid sequence as claimed in claim 1.
6. (currently amended) A transformed microorganism comprising at least one nucleic acid sequence as claimed in claim 1.

#1 us DNA  
C = I =

97%  
# 2 us DNA  
C = I =

7. (currently amended) A transformed microorganism comprising at least one nucleic acid sequence as claimed in claim 1.
8. (previously presented) A process for preparing chiral carboxylic acids of the general formula I



which comprises converting racemic nitriles of the general formula II



in the presence of an amino acid sequence as claimed in claim 2, and where at least 25 mmol of nitrile are converted per h and per mg of protein, or 25 mmol of nitrile are converted per h and per g of dry weight, into the chiral carboxylic acids,

where the substituents and variables in the formulae I and II have the following meanings:

\* an optically active center

$R^1, R^2, R^3$  independently of one another hydrogen, substituted or unsubstituted, branched or unbranched  $C_1-C_{10}$ -alkyl,  $C_2-C_{10}$ -alkenyl, substituted or unsubstituted aryl, hetaryl,  $OR^4$  or  $NR^4R^5$  and where the radicals  $R^1, R^2$  and  $R^3$  are always different,

$R^4$  hydrogen, substituted or unsubstituted, branched or unbranched  $C_1-C_{10}$ -alkyl,  $C_2-C_{10}$ -alkenyl,  $C_1-C_{10}$ -alkylcarbonyl,  $C_2-C_{10}$ -alkenylcarbonyl, aryl, arylcarbonyl, hetaryl or hetarylcarbonyl,

$R^5$  hydrogen, substituted or unsubstituted, branched or unbranched  $C_1-C_{10}$ -alkyl,  $C_2-C_{10}$ -alkenyl, aryl or hetaryl.

9. (original) A process as claimed in claim 8, wherein one of the substituents  $R^1, R^2$  or  $R^3$  is  $OR^4$ .
10. (previously presented) A process as claimed in claim 8, wherein one of the substituents  $R^1, R^2$  or  $R^3$  is aryl.
11. (currently amended) A process as claimed in claim 8, wherein the process is carried out in an aqueous reaction solution at a pH between 4 and ~~to~~ <sup>[sic]</sup> 11.
12. (previously presented) A process as claimed in claim 8, wherein from 0.01 to 10% by weight of nitrile or from 0.01 to 10% by weight of a corresponding aldehyde or ketone and from 0.1 to 10% by weight of hydrocyanic acid are reacted in the process.
13. (currently amended) A process as claimed in claim 8, wherein the process is carried out at a temperature between  $0^\circ\text{C}$  and ~~to~~ <sup>[sic]</sup>  $80^\circ\text{C}$ .
14. (previously presented) A process as claimed in claim 8, wherein the chiral

carboxylic acid is isolated from the reaction solution in yields of from 60 to 100% by extraction or crystallization or extraction and crystallization.

15. (currently amended) A process as claimed in claim 8, wherein the chiral carboxylic acid has an optical purity of at least 90%*ee*.